UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE
DALLAS, TEXAS 75202-2733

October 28, 2002

Fact sheet for draft National Pollutant Discharge Elimination System (NPDES) Permit No. TXS000601, for the City of Corpus Christi Municipal Separate Storm Sewer System to discharge to waters of the United States.

1. NOTICE OF INTENT TO ISSUE A PERMIT. The Environmental Protection Agency (EPA) has made a tentative determination to issue a permit, after consultation with the State of Texas, for the discharge of storm water from the Municipal Separate Storm Sewer System described in the application. Permit requirements are based on the Clean Water Act (33 U.S.C. 1251 *et seq.)*, hereafter referred to as the Act, and NPDES regulations (40 CFR Parts 122 and 124).

2. PERMITTING AUTHORITY. The NPDES permitting authority is: U.S. Environmental Protection Agency, Region 6, Permits Branch, 1445 Ross Avenue, Dallas, Texas 75202-2733.

3. APPLICANTS. The Applicants are: City of Corpus Christi; Texas Department of Transportation-Corpus Christi District; Corpus Christi Junior College District; Port of Corpus Christi Authority; and Texas A&M University-Corpus Christi. The applicants are to be commended for their consensus, cooperation, and partnership building efforts that were necessary to apply as co-permittees.

4. PERMIT WRITER. The permit writer is: Dorothy Crawford, Municipal Permits Section (6W-PM).

5. DESCRIPTION OF THE MUNICIPAL SEPARATE STORM SEWER SYSTEM. As authorized by Section 402(p) of the Act, this permit is being proposed on a system basis. This permit covers all areas within the corporate boundary of the City of Corpus Christi (hereafter referred to as Corpus Christi) served by, or otherwise contributing to discharges from municipal separate storm sewers owned or operated by the applicants listed above.

6. DISCHARGES AUTHORIZED BY THIS PERMIT.

a. Storm water. This permit authorizes all existing or new storm water point source discharges to waters of the United States from the Municipal Separate Storm Sewer System (MS4).

b. Non-storm water. This permit does authorize the discharge of storm water commingled with flows contributed by process wastewater, non-process wastewater, or Storm Water Associated with Industrial Activity **provided** such discharges are authorized under, or applied for, separate NPDES permits. In addition, certain types of non-storm waters listed in 40 CFR 122.26(d)(2)(iv)(B)(1) are allowable if appropriately addressed in the Storm Water Management Program (SWMP).

The following demonstrates the difference between the Act's statutory requirements for discharges from municipal storm sewers and industrial sites:

i. Section 402(p)(3)(B)(iii) of the Act required an effective prohibition on non-storm water discharges to a MS4.

ii. Section 402(p)(3)(A) of the Act requires compliance with treatment technology (BAT/BCT) and Section 301 water quality requirements on discharges of Storm Water Associated with Industrial Activity.

Because of the difference in the statutory requirements, and the fact that the Act does not exempt Storm Water Associated with Industrial Activity from the requirement to obtain a separate NPDES permit, these storm water discharges can not be authorized by the MS4 permit. Such discharges would require a separate NPDES permit. However, the permittees are responsible for the quality of the combined discharge, and have a vested interest in locating uncontrolled and unpermitted illicit and industrial storm water discharges.

c. Spills. This permit does not authorize discharges of material resulting from a spill. If discharges from a spill are necessary to prevent imminent threat to human life, personal injury, or severe property damage, the permittees have the responsibility to take (or insure the party responsible for the spill takes) reasonable and prudent measures to minimize the impact of discharges on human health and the environment.

7. RECEIVING STREAM SEGMENTS AND DISCHARGE LOCATIONS. The discharges from the MS4 are into Corpus Christi Bay Segment 2481; Nueces Bay Segment 2482; Oso Bay Segment 2485; Upper Laguna Madre Segment 2491; Nueces River Tidal Segment 2101; Oso Creek and West Oso Creek undesignated; Corpus Christi Inner Harbor Segment 2484 and tributaries thereto. The discharges are located on those waters in the City of Corpus Christi, in Nueces County, Texas. The designated

uses of the receiving streams, bays and estuaries include: Contact Recreation, Non contact Recreation, Intermediate Quality Aquatic Habitat, High Quality Aquatic Habitat, Exceptional Quality Aquatic Habitat, and Shellfish Waters.

8. EFFECTIVE DATES. Compliance with permit conditions is required **30** days from the issuance of the permit, except:
a. as specified in the Part III compliance schedules; and
b. for SWMP conditions in Part II.A (refer to section 13 of this fact sheet).

9. PUBLIC NOTICE. Upon publication of the public notice and this fact sheet, a 30 day public comment period shall begin. During this period, any interested persons may submit written comments on the draft permit, including the proposed SWMP, to the EPA point of contact listed below. Also during this period any person may request a public hearing to clarify issues involved in the permit decision. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

10. EPA POINT OF CONTACT. For additional information contact Ms. Ellen Caldwell at (214) 665-7513, Permits Branch (6W-PS), U.S. Environmental Protection Agency, 1445 Ross Ave, Dallas, Texas 75202-2733

11. BASIS FOR PERMIT CONDITIONS.

a. Statutory basis for permit conditions. The conditions established by this permit are based on Section 402(p)(3)(B) of the Act which mandates that a permit for discharges from MS4s must: effectively prohibit the discharge of non-storm water to the MS4; and require controls to reduce pollutants in discharges from the MS4 to the maximum extent practicable including best management practices, control techniques, and system, design and engineering methods, and such other provisions determined to be appropriate. MS4s are not exempt from compliance with Water Quality Standards. Section 301(b)(1)(C) of the Act requiring that NPDES permits include limitations, including those necessary to meet water quality standards, applies. The intent of the permit conditions is to meet the statutory mandate of the Act.

As authorized by 40 CFR 122.44(k), the permit will be utilizing Best Management Practices, a comprehensive SWMP, as the mechanism to implement the statutory requirements. Section 402(p)(3)(B)(iii) of the Act clearly includes structural controls as a component of maximum extent practicable requirement. The EPA has encouraged permittees to explore opportunities for pollution prevention measures, while reserving the more costly structural controls for higher priority watersheds, or where pollution prevention measures are unfeasible or ineffective.

b. Regulatory basis for permit conditions. As a result of the statutory requirements of the Act the EPA promulgated the MS4 Permit application regulations, 40 CFR 122.26(d). These regulations described in detail the permit application requirements for operators of MS4s. The information in the application (Part 1 and 2) was utilized by the EPA to develop the permit conditions and determine permittees status in relationship to these conditions.

c. Discharge goals and limitations.

i. Discharge Goals: The following goals apply to discharges from MS4s and were considered in review of the SWMP and in preparation of the draft permit. In implementing the SWMP, the permittees are required to aspire to these goals. The goals are included to further define the intent of the permit.

No discharge of toxics in toxic amounts. It is the National Policy that the discharge of toxics in toxic amounts be prohibited (Section 101(a)(3) of the Act). The Texas Surface Water Quality Standards (TAC Section 307.4(d)) requires that "Surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life."

No discharge of pollutants in quantities that would cause a violation of State water quality standards. Section 301(b)(1)(C) of the Act and 40 CFR 122.44(d) require that NPDES permits include "...any more stringent limitations, including those necessary to meet water quality standards, treatment standards, or schedule of compliance, established pursuant to State law or regulations..." Implementation of the SWMP is reasonably expected to provide for protection of State water quality standards.

No discharge of floatable debris, oils, scum, foam, or grease in other than trace amounts. The Texas Surface Water Quality Standards (TAC 307.4(b) requires that "Surface water shall be essentially free of floating debris and suspended solids...."

No discharge of non-storm water from the municipal separate storm sewer system, except in accordance with Part I.B.2. Permits issued to MS4s are specifically required by Section 402(p)(3)(B) of the Act to "...include a requirement to effectively prohibit non-storm water discharges into the storm sewers..." The regulation (40 CFR 122.26(d)(2)(iv)(B)(1)) allows the permittee to accept certain non-storm water discharges where they have not been identified as significant sources of pollutants. Any discharge subject to its own NPDES permit is not subject to the ban on non-storm water.

No degradation or loss of State-designated beneficial uses of receiving waters as a result of storm water discharges from the municipal separate storm sewer (unless authorized by the State in accordance with the State's Antidegradation Policy). The State of Texas has adopted an Antidegradation Policy as part of their Water Quality Standards which provides for maintenance of: existing instream water uses; existing water quality levels where existing water quality exceeds the levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water (except where the State has determined that lowering water quality is necessary to accommodate important economic or social development in the area where the waters are located); existing water quality where high quality waters constitute an outstanding National resource (e.g. waters of National and State parks and wildlife refuges or exceptional recreational or ecological significance); and compliance with Section 316 of the Act where potential water quality impairment is associated with a thermal discharge.

ii. Discharge Limitations: No numeric limitations are proposed at this time. In accordance with 40 CFR 122.44(k), the EPA has required a series of Best Management Practices, in the form of a comprehensive SWMP, in lieu of numeric limitations. Numeric limitations will be included in the final permit if required by the State as a condition for certification of the permit under Section 401 of the Act.

12. STORM WATER MANAGEMENT PROGRAM. The SWMP submitted by the permittees was required to contain program elements for each of the items in **Table A**.

Table A - Storm Water Management Program Elements

Required Program Element	Permit Parts	Regulatory References (40 CFR 122.26)
Structural Controls	II.A.1	(d)(2)(iv)(A)(1)
Areas of new development & significant redevelopment	II.A.2	(d)(2)(iv)(A)(2)
Roadways	II.A.3	(d)(2)(iv)(A)(3)
Flood Control Projects	II.A.4	(d)(2)(iv)(A)(4)
Pesticides, Herbicides, & Fertilizers Application	II.A.5, A.10.c	(d)(2)(iv)(A)(6)
Illicit Discharges and Improper Disposal	II.A.6, A.10.a-.b	(d)(2)(iv)(B)(1)-(3), (iv)(B)(7)
Spill Prevention and Response	II.A.7	(d)(2)(iv)(B)(4)
Industrial and High Risk Runoff	II.A.8, A.11.c	(d)(2)(iv)(C), (iv)(A)(5)
Construction Site Runoff	II.A.9	(d)(2)(iv)(D)
Public Education	II.A.10	(d)(2)(iv)(A)(6), (iv)(B)(5), (iv)(B)(6)
Monitoring Program	II.A.11, V	(d)(2)(iv)(B)(2), (iii), (iv)(A), (iv)(C)(2)

The regulations, 40 CFR 122.26(d)(2)(iv), authorizes separate proposed programs for co-permittees, and imposition of controls for different areas of the MS4 on a watershed, jurisdiction, or individual outfall basis. Due to differences in climate, topography, historical development patterns, legal authority, sensitivity of receiving waters, and many other factors, the EPA believes some flexibility in prioritizing the scope and timing of individual program elements must be afforded the permittees. The standard of reducing the pollutants to the maximum extent practicable, is therefore applied to the SWMP as a whole, rather than to each individual program element. The EPA believes this approach is in accordance with Section 402(p)(3)(B) of the Act and the intent of Congress. The permittees submitted five SWMPs in their Part 2 applications. For the purposes of this document these five SWMPs are considered a single document attached to the permit with five "chapters". All references to SWMP refer to this single document.

The following summarize the SWMP elements submitted by the permittees to satisfy the requirements. Where elements were deemed by the EPA to require augmentation, or where significant submittals were indicated in the SWMP, schedules were included in Part III of the permit. Dates contained in the Part III schedules were based on the assumption that the permit will have an effective date of **March 1, 1995** and will be adjusted appropriately if this date is delayed.

a. Structural Controls: *The MS4 and any storm water structural controls shall be operated in manner to reduce the discharge of pollutants to the Maximum Extent Practicable.*

Corpus Christi will maintain and inspect the MS4's structural controls owned or operated by Corpus Christi (SWMP Chapter 1, Section 4.A.1). The Port of Corpus Christi Authority (hereafter referred to as the Port Authority), Texas A&M - Corpus Christi (TAMU-CC), and Corpus Christi Junior College District will provide for the regular inspection and maintenance of drainage facilities they operate. Texas Department of Transportation-Corpus Christi District (TxDOT-CC) has a maintenance program for ditch mowing.

b. Areas of New Development and Significant Redevelopment: *A comprehensive master planning process (or equivalent) to develop, implement, and enforce controls to minimize the discharge of pollutants from areas of new development and significant re-development after construction is completed.*

Corpus Christi adopted policies which are guidelines for pollution prevention measures to be utilized during land development planning (Chapter 1, Section 4.A.2). The policy statements recommend that regulations be developed to meet these goals. Several specific Area Development Plans exist for environmentally sensitive areas.

Corpus Christi plans to develop a guidance manual of planning technical criteria to address water quality concerns for development projects after construction (Chapter 1, Section 4.A.2.2). Corpus Christi intends to include technical information for construction pollution control measures in this manual also. The EPA considers the issues to be related but unique and separate in their control requirements. The manual will be adopted for use by the beginning of the third year of the permit. The permit contains separate submittal and adoption compliance schedules for the planning and construction portions of the proposed guidance manual. Corpus Christi may submit one document that contains approvable portions relating to the separate issues' permit conditions, to comply with the two set of schedules.

TxDOT-CC conducts an environmental review during the preliminary phases of projects' development. They are preparing a document to address water quality impacts after construction of development projects. The permanent structural control practices shall be adopted by the beginning of the second year of the permit term. The permit contains a compliance schedule for the submittal and adoption of the guidance documents.

The Port Authority will incorporate procedures into the planning, design, and operation of the facility as follows: evaluate the potential result in impairment to water quality for proposed activities, and structural and nonstructural measures to control potential water quality impacts from planned developments. TAMU-CC shall amend their Master Plan to adequately consider post-construction water quality issues during the planning stage of development projects by the third year of the permit. Corpus Christi Junior College District plans to coordinate their planning procedures with the Corpus Christi to address the quality of storm water discharges during the planning of development projects.

c. Roadways: *Public streets, roads, and highways shall be operated and maintained in a manner to minimize discharge of pollutants, including those pollutants related to deicing or sanding activities.*

Corpus Christi's has a program for the operation and maintenance of public roadways to minimize the discharge of pollutants (Chapter 1, Section 4.A.3.1 through 3.3). The current program entails sweeping of streets for the removal of trash, litter, and sediment in the downtown Corpus Christi area approximately once per year. Corpus Christi performs pollution prevention measures at it's municipal vehicle maintenance facilities. There is an existing Corpus Christi litter collection program. The program includes the following: curbside garbage pickup; litter pickup in Corpus Christi right-of-way, medians, and parks; scheduled neighborhood cleanups of brush and bulky items; trash collection; dead animal pickup; and litter abatement enforcement program. Corpus Christi's Public Education Program will include elements for litter prevention (e.g., Inlet Stenciling Program). There is an existing Nueces County Litter Control Program.

The Port Authority currently sweeps dock and warehouse apron areas. Maintenance personnel perform inspections. Major roadway corridors within the Port Authority's property are under the operational control of Corpus Christi. Corpus Christi Junior College District and TAMU-CC currently sweep local street and parking areas as needed and have litter control programs. TxDOT-CC has an existing litter prevention program which includes the following aspects: "Don't Mess with Texas" and "Adopt-a-Highway" public education campaigns.

d. Flood Control Projects: *Impacts on receiving water quality impacts shall be assessed for all flood control projects. The feasibility of retro-fitting existing structural flood control devices to provide additional pollutant removal from storm water shall be evaluated.*

Corpus Christi shall prepare criteria to assure that flood control projects are assessed for the projects' impact on water quality; and evaluate existing flood control devices to determine if retrofitting is feasible (Chapter 1, Section 4.A.4.2 and 4.H). The Flood Control Program will be fully implemented by the beginning of the fourth year of the permit term. The permit contains compliance schedules for the submittal and formal adoption of the criteria, and retrofitting evaluation report.

e. Pesticide, Herbicide, and Fertilizer Application: *Each permittee shall implement controls to reduce the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied, by the permittee's employees or contractors, to public property.*

Xeriscaping and education are the primary method Corpus Christi proposes to reduce the discharge of pollutants in the MS4 that results from landscaping and pest control chemical application (Chapter 1, Section 4.B). Corpus Christi's Landscaping Ordinance emphasizes the use of xeriscaping to meet the required minimum landscape standards for new developments, modifications to existing structures, and improvements requiring building permits. A public education program is under development to promote xeriscaping in the area. This program plans to construct a Xeriscape Design Garden and Learning Center at the Corpus Christi Museum of Science and History. The impact of a successful program of Xeriscaping would be the potential reduction of discharges of pollutants from private/public development because Xeriscaping requires the use of less herbicides, fertilizers and pesticides than more usual landscaping plans. All municipal applicators are certified and trained on the proper use of pesticides, herbicides, and fertilizers.

The Port Authority does not routinely apply fertilizers. Herbicide applicators are trained and certified. Pesticides are commonly applied by private licensed contractors throughout all warehouse facilities.

The TxDOT-CC, TAMU-CC, and Corpus Christi Junior College District have an existing program for pesticide, herbicide, and fertilizer application that requires their operators to be trained and licensed.

f. Illicit Discharges and Improper Disposal: *An ongoing program to detect and eliminate illicit discharges and improper disposal into the MS4. Non-storm water discharges shall be effectively prohibited. However, the permittee may allow certain non-storm water discharges as listed in 122.26(d)(2)(iv)(B)(1). The SWMP shall identify any allowed non-storm water discharges, along with any conditions placed on discharges.*

Corpus Christi will submit a list of non storm water discharges that are allowed or not allowed to discharge to the MS4 and reasons for these determinations (Chapter 1, Section 4.D). The permit contains compliance schedules for the submittal and formal adoption of the list by the beginning of the second year of the permit term.

Each permittee shall prevent (or require the operator of the sanitary sewer to eliminate) unpermitted discharges of dry and wet weather overflows from sanitary sewers into the MS4. Each permittee shall limit the infiltration of seepage from sanitary sewers into the MS4.

Corpus Christi's has a program for evaluating and correcting sanitary sewer exfiltration and system integrity problems (Chapter 1, Section 4.F).

The discharge of floatables (e.g.: litter and other human generated solid refuse) into the MS4 shall be reduced.

The permittees have litter control programs as described above under Roadways.

The discharge or disposal of used motor vehicle fluids, household hazardous wastes, grass clippings, leaf litter, and animal wastes into the MS4 shall be prohibited. The permittees shall ensure the implementation of programs to collect used motor vehicle fluids (at a minimum, oil and antifreeze) for recycle, reuse, or proper disposal and to collect household hazardous waste materials (including paint, solvents, pesticides, herbicides, and other hazardous materials) for recycle, reuse, or proper disposal.

Corpus Christi's will conduct household hazardous waste and used motor fluid programs (Chapter 1, Section 4.I.1). Corpus Christi will accept lead acid batteries and used motor oil from the public at the J.C. Elliott Municipal Landfill three days a week. Other private business facilities in Corpus Christi's boundaries also accept used motor oil. On a quarterly basis Corpus Christi shall conduct Household Hazardous Waste collection events. The wastes accepted at these events include the following: automobile (anti-freeze, solvents, brake and transmission fluids,..); home cleaning (drain cleaners, concentrates, oven cleaners, mothballs, polishes, pool chemicals,...); paint (spray, thinners, strippers, preservatives,...); and garden wastes (pesticides, herbicides).

Corpus Christi Junior College District is permitted by the EPA and by the State as a small quantity generator. The College has programs for the proper disposal or recycling of paper products, aluminum, used motor oil, chemicals, and hazardous wastes. TAMU-CC and the Port Authority recycles and properly disposes of used motor oil and filters, and maintenance equipment fluids utilized in facilities under their jurisdiction.

A program to locate and eliminate illicit discharges and improper disposal into the MS4 shall be implemented. This program shall include dry weather screening activities to locate portions of the MS4 with suspected illicit discharges and improper disposal. Follow-up activities to eliminate illicit discharges and improper disposal may be prioritized on the basis of

magnitude and nature of the suspected discharge; sensitivity of the receiving water; and/or other relevant factors. This program shall establish priorities and schedules for screening (described in ***Part II.A.11.a and b.****) the entire MS4 at least once per five years. Facility inspections may be carried out in conjunction with other permittee programs (e.g. pretreatment inspections of industrial users, health inspections, fire inspections, etc.), but must include random inspections for facilities not normally visited by the permittee.*

Corpus Christi shall conduct an on-going system wide dry weather screening program (Chapter 1, Section 4.C.2) for the MS4 which includes a system for screening outfall selection; and screening prioritization, characterization, and source identification procedures. TxDOT-CC, TAMU-CC, Corpus Christi Junior College District, and Port of Corpus Christi Authority facilities will be included in this program.

An illicit and improper disposal inspection program will be developed by Corpus Christi (Chapter 1, Section 4.D). A list of facilities subject to inspection (pretreatment and other industries, and commercial facilities), and an inspection checklist for Corpus Christi employees will be created. The permit contains compliance schedules for the implementation of the program by the beginning of the fourth year of the permit.

Each permittee shall require the elimination of illicit discharges as expeditiously as possible and the immediate ending of improper disposal practices upon identification of responsible parties. Where elimination of an illicit discharge within thirty (30) days is not possible, the permittee shall require an expeditious schedule for removal of the discharge.

Corpus Christi's illicit program source identification procedure will require parties who are responsible for illicit and improper discharges to demonstrate to Corpus Christi an acceptable corrective procedure for removing the discharge (Chapter 1, Section 4.C.2.d).

g. Spill Prevention and Response: *A program to prevent, contain, and respond to spills that may discharge into the MS4 shall be implemented. The spill response program may include a combination of spill response actions by the permittee (and/or another public or private entity), and legal requirements for private entities within the permittees' jurisdiction.*

Corpus Christi's Fire Department manages the Hazardous Material Response Team (Chapter 1, Section 4.E). The goal of this team is to minimize spill damages to humans and the environment. The Corpus Christi Water Department has trained employees to assist the Team in matters concerning the MS4.

The Port Authority plans to develop an internal spill prevention and response training program for their employees. The Port Authority will utilize the Corpus Christi and Private Response teams for larger spills.

TxDOT-CC has an existing program for spill response. TxDOT-CC maintenance facilities have specified trained spill response employees. Procedures are developed for small spill response and clean up. Major spills in public right-of-way are handled in accordance with an interagency agreement with the Texas Natural Resource Conservation Commission.

Corpus Christi Junior College District conducts an employee education program addressing the proper use of hazardous chemicals. In addition a trailer equipped to respond to spills and training of employees on trailer equipment use has been provided. TAMU-CC has an employee education program on hazardous chemical use and an emergency spill response plan.

h. Industrial & High Risk Runoff: *A program to identify and control pollutants in storm water discharges to the MS4 from municipal landfills; other treatment, storage, or disposal facilities for municipal waste (e.g. transfer stations, incinerators, etc.); hazardous waste treatment, storage, disposal and recovery facilities and facilities that are subject to EPCRA Title III, Section 313; and any other industrial or commercial discharge the permittee determines are contributing a substantial pollutant loading to the MS4 shall be implemented. The program shall include inspections, a monitoring program (described in* ***Part II.A.11.c****), and a list of industrial storm water sources discharging to the MS4 shall be maintained and update as necessary.*

Inspections at closed landfills and publicly owned treatment works will be accomplished during visual monitoring (Chapter 1, Section 4.A.5). Corpus Christi will conduct an inspection program for open landfills, EPCRA, Hazardous TSDs, and other high risk industries (Chapter 1, Section 4.G). Corpus Christi's Industrial and High Risk Monitoring Program is discussed below. The Industrial and High Risk Inspection program will be fully implemented by the beginning of the fourth year of the permit term. The permit contains compliance schedules for the submittal of information about, and implementation of the program.

i. Construction Site Runoff: *A program to reduce the discharge of pollutants from constructions sites shall be implemented. This program shall include: requirements for the use and maintenance of appropriate structural and nonstructural control measures to reduce pollutants discharged to the MS4 from construction sites; inspection of construction sites and enforcement of control measures requirements; appropriate education and training measures for construction site operators; and notification of appropriate building permit applicants of their potential responsibilities under the NPDES permitting program for construction site runoff.*

Corpus Christi's construction site runoff pollution prevention program is under development (Chapter 1, Section 4.H). The program will be fully implemented in the third year of the permit term. Compliance schedules are included in the permit for the development and implementation of the program.

The Port Authority's current planning and construction management procedures limit pollutant discharges from construction activities on the Authority's site. Corpus Christi Junior College District has prepared a plan to control pollution that will be included in all contracts for construction on the campus. TAMU-CC has adopted the University System, Department of Facilities, Construction Division program for storm water management of construction sites. All construction at both campuses will be coordinated with Corpus Christi's construction pollution prevention requirements. TxDOT-CC's existing construction specifications require pollution prevention measures during the construction phase of projects.

j. Public Education: *A public education program with the following elements shall be implemented: (a) a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or improper disposal of materials into the MS4; (b) a program to promote, publicize, and facilitate the proper management and disposal of used oil and household hazardous wastes; and (c) a program to promote, publicize, and facilitate the proper use, application, and disposal of pesticides, herbicides, and fertilizers by public, commercial, and private applicators and distributors.*

Corpus Christi's public education program for illicit discharge and improper disposal reporting and awareness contains the following: 24-hour operational telephone service for reporting, and storm water inlet stenciling. The public will be educated about the proper use of pesticides, herbicides, and fertilizers by the following: mailouts to local businesses and citizens, and development of a Public Xeriscape Design Center. Public education concerning used motor fluids, household hazardous wastes, and the objectives mentioned above will be accomplished by a program of general environmental education functions. The functions will include: a school education program, use of television news reporting, speakers bureau, development of educational videos, use of television and radio commercials, general public mailouts, newspaper inserts, mailouts with utility bills, open houses of treatment plants and waste facility, public employee education, business and industry mailouts, a partnership with business program, and citizen advisory groups.

Corpus Christi Junior College District and TAMU-CC both will provide support to Corpus Christi's Public Education Program. The Port Authority will cooperate with Corpus Christi in the development or underwriting of public education activities. The Port Authority will communicate all requirements of the permit to it's tenants and employees. TxDOT-CC has an existing litter pollution prevention public education program discussed above.

k. Monitoring Programs: *The following monitoring programs shall be implemented in addition to the monitoring required by Part V. of the permit:*

Dry Weather Screening Program; Discussed above under Illicit Discharges and Improper Disposal.

Wet Weather Screening Program; Corpus Christi shall conduct a Wet Weather Screening Program (Chapter 1, Section 4.A.6). During rain events, visual monitoring shall be conducted on the MS4. Portable monitoring equipment will also be used. The program will be fully implemented by the beginning of the second year of the permit term. The permit contains compliance schedules for the submittal of information about, and implementation of the program.

Industrial and High Risk Runoff Monitoring Program. Corpus Christi will develop an Industrial and High Risk Monitoring Program (Chapter 1, Section 4.G). The program will be fully implemented by the beginning of the third year of the permit term. Compliance schedules are included in the permit for the development and implementation of the program.

13. STORM WATER MANAGEMENT PROGRAM COMPLIANCE. Compliance with Part II.A will be accomplished by the implementation of and compliance with the described activities of the various elements of the permittees' SWMP, as modified by compliance schedules contained in the Part III. Permittees' must fully implement the SWMP, except as indicated Part III, within **90** days from permit issuance. At the end of the 90 days all the required support and initiation procedures for Program elements should be established, and the elements' activities performed as described and scheduled.

The SWMP contains implementation schedules for some of the program elements. In addition there are SWMP augmentation schedules in Part III of the permit. The schedules in Part III will take precedence in the case of any conflict between the Part III schedules and the SWMP schedules. Permittees adherence to the SWMP, including implementation schedules contained in the SWMP, and schedules contained in Part III will be considered compliance with Part II.A of the permit.

14. ROLES AND RESPONSIBILITIES OF PERMITTEES. The regulation 40 CFR 122.26(d)(2)(vii) required the permittees to describe the roles and responsibilities of each entity applying for the permit to ensure effective coordination. Interagency Agreements are the means by which the permittees propose to implement the SWMP and monitoring program. Each of the permittees plan to implement their individual programs on the portion of the system which they own and operate. Permittees are accountable for understanding their role and responsibilities regarding permit conditions.

15. PERMITTEES LEGAL AUTHORITY. The permittees are required to have the legal authority necessary to successfully enforce, implement, and complete the various activities described in the permit and SWMP. Corpus Christi stated in the application that adequate legal authority exists or is being sought for the following requirements: control the contribution of pollutants to, and quality of storm water from industrial sites contributing to the storm sewer system; prohibit illicit discharges to the storm sewer system; control spills, dumping or improper disposal to the storm sewer system; control of the contribution of pollutants from one portion of the storm sewer system to the other; require compliance with ordinances; perform site inspections and monitoring.

16. PERMITTEES RESOURCES. Part II.F. of the permit requires permittees to provide adequate support capabilities to implement their activities under the SWMP. Compliance with Part II.F. will be demonstrated by the permittees ability to fully implement the SWMPs, monitoring programs, and other permit requirements. The permit does not require specific funding or staffing levels, thus providing the permittees the ability, and incentive, to adopt the most efficient and cost effective methods to comply with permit requirements.

17. TYPE AND QUANTITY OF POLLUTANT PARAMETERS DISCHARGED. Table B is a summary of some of the permittees' application representative monitoring data.

Table B - Representative Monitoring Data

Parameter	Estimates from Permit Application			
	System Annual Loading [1]	Residential [2]	Commercial [2]	Industrial [2]
Biochemical Oxygen Demand (BOD_5)	542,510	19	42	14
Carbonaceous Oxygen Dema ($CBOD_5$)	1,997,331	85	152	86
Total Suspended Solids (TSS)	1,392,632	55	58	109
Dissolved Solids	3,661,326	168	267	113
Nitrate + Nitrite	6,753	0.32	0.22	0.30
Ammonia + Organic Nitrogen (TKN)	31,479	1.7	1.2	1.1
Total Phosphorus	17,077	0.6	2.2	0.5
Dissolved Phosphorus	15,356	0.5	2.2	0.4
Total Cadmium	0.039	0.001	0.001	0.004
Total Copper	0.35	0.015	0.019	0.025
Total Lead	0.53	0.010	0.022	0.027
Total Zinc	2.83	0.080	0.185	0.333
Oil & Grease	-	2.8	102	3.3
Fecal Coliform (No./100ml)	-	46617	31883	37625
Fecal Streptococcus (No./100ml)	_	828000	2202867	8696583
pH (S.U.)	_	8.25	8.4	8.2

[1] pounds
[2] mg/l, EMC=event mean concentration

The permittees sampled 30 times, 6 storm events from 5 locations which were selected to provide uniform upstream drainage area land uses (12 residential, 12 industrial, 6 commercial samples). Parameters sampled included conventional, non-conventional, organic toxics, and other toxic pollutants. The EPA reviewed this information during the permitting process. Monitoring data was intended to be used by the permittees to assist in their determination of appropriate storm water management practices. EPA used the

data to review the application and to determine pollutants of concern discharging from the MS4 that should be monitored during the permit term.

a. Evaluation of Toxic Pollutants: Table C is a summary of EPA's review of monitoring data for toxic pollutants. Since no State Implementation Strategy for receiving water high flow (wet weather) currently exists these exceedences of criteria are only indicators of potential areas of concern for the MS4 discharges, not violations of water quality standards. The parameters Zinc, Copper, Lead, Cyanide, Cadmium, Nickel, and Chromium are considered toxic pollutants of concern for discharges from the MS4 due to the number of detection events and levels detected. The parameters Silver and Arsenic were detected in only one sample each at low levels.

Table C - Monitoring Data Evaluation

Parameter	Number of Samples with Parameter Detected			Number of Samples that Exceeded WQS Criteria	
	Residential	Commercial	Industrial	Acute	Chronic
Cadmium	6	2	8	-	2
Chromium	4	5	10	-	-
Copper	12	6	12	12	29
Lead	10	6	11	1	24
Nickel	2	3	5	-	7
Zinc	11	6	12	21	22
Cyanide	3	1	-	4	4

b. Evaluation of Conventional and Non-Conventional Pollutants: Commercial area discharges contained excessive levels of Oil & Grease and Phosphorus. Fecal parameters were elevated.

18. MONITORING AND REPORTING.

a. Reports Required: Permittees are required (40 CFR 122.42(c)(1)) to contribute to the preparation of an annual system-wide report including status of implementing the SWMP; proposed changes to the SWMPs; revisions, if necessary, to the assessments of controls and the fiscal analysis reported in the permit application; a summary of the data, including monitoring data, that is accumulated throughout the reporting year; annual expenditures and the budget for the year following each annual report; a summary describing the number and nature of enforcement actions, inspections, and public education programs; and identification of water quality improvements or degradation. The permittees are required to do annual evaluations on the effectiveness of the SWMP, and institute or propose modifications necessary to meet the overall permit standard of reducing the discharge of pollutants to the maximum extent practicable. In order to allow the orderly collection of budgetary and monitoring data it was determined to allow the annual report due date to relate to the permittees' annual fiscal year and monitoring seasons. Corpus Christi's fiscal year and first dry season ends on **July 31**, the annual report is due **March 1**. Copies of these reports will be available to the public.

b. Monitoring: The permittees are required (40 CFR 122.26(d)((2)(iii)(C) and (D)) to monitor the MS4 to provide data necessary to assess the effectiveness and adequacy of SWMP control measures; estimate annual cumulative pollutant loadings from the MS4; estimate event mean concentrations and seasonal pollutants in discharges from major outfalls; identify and prioritize portions of the MS4 requiring additional controls, and identify water quality improvements or degradation. The permittees are responsible for conducting any additional monitoring necessary to accurately characterize the quality and quantity of pollutants discharged from the MS4.

Due to the variability of storm water discharges, the cost of the monitoring program needs to be balanced with the monitoring objectives and the more important goal of actually implementing controls that will directly effect the quality of the storm water discharged. However, the municipalities must realize that the EPA will have to make future permitting decisions based on the monitoring data collected during the permit term. The public will also be looking for evidence of pollutant reductions. Where the required permit term monitoring proves insufficient to show pollutant reductions, the EPA may be forced to resort to limitations in the next permit. Two types of monitoring are required by the permit: storm event representative monitoring and floatables monitoring.

i. Representative monitoring. The monitoring of the discharge of representative outfalls during actual storm events will provide information on the quality of runoff from the MS4, a basis for estimating annual pollutant loads, and a mechanism to evaluate reductions in pollutants discharged from the MS4. Results from the monitoring program will be submitted annually on Discharge Monitoring Reports.

(1) Requirements: The permittees are required to monitor for the parameters listed in Table V.A.1.a of the permit throughout the permit term. Monitoring will be conducted at the five monitoring locations indicated in Table V.A.1.b. of the

permit.

(a) Parameters: The EPA established permit parameter monitoring requirements based on the information available regarding storm water discharges and potential impacts of these discharges. Oso Bay, Corpus Christi Bay, Nueces Bay, and Laguna Madre have in the past been closed or partially closed for oyster harvesting due to elevated fecal coliform bacteria. Fecal Coliform is an indicator of sanitary sewage, which contains pathogens, rather than animal waste. The monitoring data indicated elevated levels of Fecal pollutants.

The monitoring data indicated inordinate levels of BOD_5, TDS, and Phosphorus. Total Phosphorus is elevated in Oso Bay, Nueces Bay, and Nueces River Tidal. Nueces River Tidal has a history of supersaturated dissolved oxygen levels and elevated pH levels. The pH indicates the potential availability of metals to the receiving water flora, fauna, and sediment. The monitoring of oxygen demand parameters (BOD_5 and COD) will indicate the discharges oxygen depletion potential. COD has also been included as a monitoring parameter to compensate for the potential interference (e.g., metals) of the BOD_5. Nutrients (Nitrogens and Phosphorus) stimulate algal blooms by eutrophication (over enrichment) in coastal areas. Bacterial decomposition of these blooms consumes oxygen and can lead to anoxic conditions. Nitrogen more than Phosphorus, typically controls plant growth in marine systems. The EPA determined that all forms of Nitrogen should be monitored for in the MS4 discharges to allow future analyses to more reasonable discern the sources of Nitrogen, and therefore potential appropriate controls. Oil & Grease, TSS, and TDS are common storm water components and can seriously impact receiving water.

Toxic pollutants (e.g., Cadmium, Copper, Lead) are toxic to aquatic animals and can bioaccumulate in fish and shellfish, potentially resulting in toxic effects to humans. Toxic parameters of concern have been included in the permit's monitoring requirements.

The monitoring of Diazinon is required due to the EPA's experience with other MS4 and POTW treatment plant discharge monitoring data. It was not included in the application monitoring requirements and therefore it was not indicated if Diazinon is a problem for the Corpus Christi MS4 but it is reasonable to assume that it is present in the MS4's discharge. Diazinon will serve as an indicator of the effectiveness of public education programs designed to reduce pollution from pesticides, fertilizer, and herbicide use.

(b) Frequency: The frequency of annual monitoring is based on monitoring at least one representative storm event per season. The four seasons in the Corpus Christi area are as follows: May - June, 1st wet season; July, dry season; August - October, 2nd wet season; November - April, dry season. The permittees are to monitor once per season. Monitoring frequency is based on permit year, not a calendar year. The first complete calendar year monitoring could be less than the stated frequency.

(2) Representative Monitoring - Rapid Bioassessment Option. Biological monitoring techniques offer the ability to indirectly assess the quality of storm water discharges from the municipal separate storm sewer system by assessing the "health" of the receiving water. Rapid bioassessment protocols evaluate the number, diversity, and relative "pollution tolerance" of aquatic species in the receiving waterbodies (e.g. streams, rivers, lakes, estuaries, etc.). Either fish or benthic organisms (bottom-dwelling insects, etc. that serve as food supply for higher organisms) can be studied. Comparing the types and numbers of organisms collected from waterbodies receiving discharges from the MS4 to those collected from a "reference site" relatively un-impacted by urban runoff, provides an indication of how degraded the waterbody is. For example, a healthy stream would typically have greater species diversification and a higher number of species that require clean water to survive and reproduce. A degraded stream would have relatively fewer species and a larger proportion of species that are tolerant of pollution.

While rapid bioassessments do not directly measure the quality of storm water discharges, they can be an important (and cost effective) tool in tracking trends in water quality. The permittees will be given the option of replacing a portion of the parameter representative monitoring required by the permit with a rapid bioassessment monitoring program. Upon approval by the EPA, the permittees may replace the representative monitoring for years 2, 3, and 5 with rapid bioassessment of at least two receiving waters plus a reference site. Representative monitoring of actual storm water discharges will still be required during years 1 and 4.

ii. Floatables Monitoring. Floatable surveys shall be accomplished to investigate trends in water quality issues related to manmade debris and floatables. The comparison of yearly survey results should allow the permittees and the EPA to assess the impact of the SWMP elements as they relate to the reduction and elimination of floatables discharge from the MS4.

19. PERMIT MODIFICATIONS.

a. Reopener Clause: The EPA may reopen and require modifications to the permit (including the SWMP) based on the following factors: changes in the State's Water Quality Management Plan and State or Federal requirements; adding permittees;

SWMP changes impacting compliance with permit requirements; other modifications deemed necessary by the EPA to adhere to the requirements of the Act. Implementation of the SWMP is expected to result in the protection of water quality standards. The permit does, however, contain a reopener clause should new information indicate the discharges from the MS4 are causing, or significantly contributing to, a violation of the State's water quality standards.

b. Other changes: The EPA has attempted to develop permit language to clarify the permit requirements concerning possible changes to the SWMP, permittees status, and other changes.

i. Terminated Permittees: The process for terminating coverage for an existing permittee shall adhere to the regulations 40 CFR 122.64. A notice of intent to terminate will be issued in accordance with draft permit procedures.

ii. SWMP Changes: The SWMP is intended as a functioning mechanism for the permittees' use. Therefore minor changes and adjustments to the various SWMP elements are expected. Incorporating this form of document into an NPDES permit has some inherent conflicts. The regulatory rules concerning permit changes and modifications do not easily translate to the minor changes that will be necessary to occur to the various elements during the permit term. The changes may be necessary to more successfully adhere to the goals of the permit. The EPA has determined that these minor changes that are specifically described in the permit shall not be considered permit modifications as defined in the regulations. Part II.G.2. of the permit describes the allowable procedure for the permittees to perform additions and minor changes to the SWMP. This section in no way implies that the permittees are allowed to impact or change elements that directly relate to permit conditions for the SWMP. Any changes requested by the permittees shall be reviewed by the EPA. The EPA has 60 days to respond to the permittees and inform them if the suggested changes will impact or change the SWMP's compliance with a permit requirement and therefore are either disallowed or requires a formal permit modification procedure.

iii. Additions: The EPA's intent is to allow the permittees to annex lands and accept the transfer of operational authority over portions of the MS4 without mandating a permit modification. Implementation of appropriate SWMP elements for these additions (annexed land or transferred authority) is required. Upon notification of the additions in the Annual Report the EPA may require a modification to the permit based on the new information.

iv. Monitoring outfalls: The permit is issued on a system-wide basis in accordance with Section 402(p)(3)(i) of the Act and authorizes discharges from all portions of the MS4 owner or operated by the permittees. Since all outfalls are authorized, changes in monitoring locations, other than those with specific numeric effluent limitations, shall be considered minor modifications to the permit and will be made in accordance with the procedures at 40 CFR 122.63.

20. CONSIDERATIONS UNDER FEDERAL LAW. The discharge which is being controlled by the terms of this permit is the result of natural precipitation, and as such would continue to be discharged regardless of the federal action represented here. The terms of this permit do require that the municipalities minimize or reduce to the maximum extent practicable the pollutants in the storm water runoff from the municipality. We believe therefore that this permit will not effect any listed endangered or threatened species, and/or critical habitat.

Based on the information provided to date no sites listed or eligible for listing in the National Historic Register will be effected by proposed activities to reduce pollutants in the permittees' natural runoff. The applications for this permit were forwarded to the Texas State Historical Preservation Officer (SHPO) for comment. The SHPO expressed an interest in reviewing for their effects to significant cultural resources only those storm water management plans that include activities involving excavation and/or construction in previously undisturbed areas. As a result, standard permit condition Part VI.U. was included in the draft permit. This condition requires the permittees to provide information to the SHPO thirty days prior to commencing earth disturbing activities. Only activities meeting <u>all</u> of the following criteria are subject to this permit condition: 1) is a permittee conducted activity for implementing permit requirements; 2) excavation and/or construction; and 3) disturbance of previously undisturbed land. Assuming they meet the criteria listed above some examples of activities subject to the permit condition include, but are not limited to: retention/detention basin construction; storm drain line construction; infiltration basin construction; dredging; and stabilization projects (e.g., retaining walls, gabions). The requirement to submit information on plans for future earth disturbing is <u>not</u> intended for activities such as: maintenance; and private development construction projects.

NPDES permit regulations (40 CFR 122.49(d)) prohibit EPA from issuing a permit when the permittee has not certified that the proposed activity is in compliance with applicable requirements of a State's Coastal Zone Management Program. The Coastal Zone Management Program is being developed and therefore Corpus Christi is unable to provide such a certification. It is expected that at the time of permit reissuance the Coastal Zone Management Program will be developed and impact the permit requirements.

In 1992, the Governor of Texas nominated Corpus Christi Bay as an Estuary of National Significance. This nomination resulted in acceptance to the EPA National Estuary Program in October of 1992, and the award of a cooperative agreement in October of 1993. Work under this initial agreement between Texas and EPA has consisted of developmental activities to initiate and establish the Corpus Christi

Bay National Estuary Program (CCBNEP), with the goal of producing a Comprehensive Conservation and Management Plan (CCMP) in Fall 1998. The National Estuary Program process for developing a CCMP is unique. It consists of four phases: planning, characterization, CCMP development, CCMP implementation. In addition to planning efforts, the CCBNEP will be engaged in "Early Action" activities. Management Conferences attempt to use existing programs and funding sources to begin action where problem areas and solutions have been already identified. National Estuary Programs support an active public participation program which will allow the CCBNEP to participate significantly in public education activities. The CCBNEP Nomination document and a recent survey conducted by the Coastal Bend Council of Governments indicates that urban and other sources of non point source pollution will be an important area of action plan development. Therefore, the CCBNEP has expressed an interest in participating in any public education and participation program associated with the Corpus Christi's MS4 permit.

21. STATE CERTIFICATION OF THE DRAFT PERMIT. Concurrently with Public Notice of today's draft permit, the EPA is formally requesting State Certification of the permit, as required by Section 401(a)(1) of the Act, and 40 CFR 124.53. The final permit will contain any condition required by the State as a condition for Certification.